

USSR

MIKHEYEV, V. S., et al, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan-Feb 1970, pp 189-192

is presented. Tantalum and vanadium form continuous solid solutions with α -titanium and have a limited solubility with β -titanium. The solubility of Σ Ta, % in α - and β -titanium at 600° C is in wt. T: α -Ti -- 6.4-6.8, 5.0-5.2, and 3.2-3.5; β -T -- 53-55, 42-40, and 25, respectively.

2/2

Acc. Nr:

APC046648

Abstracting Service:

INTERNAT. AEROSPACE ABST.

Ref. Code:

5-70 UR 3663

A70-25295 # Study of the mechanical properties of new titanium alloys at low temperatures (issledovanie mekhanicheskikh svoystv novykh titanovykh splavov pri nizkikh temperaturakh). P. F. Koshelev, V. S. Mikhaylov, and P. N. Nikitin (Gosudarstvennyy Nauchno-Issledovatel'skiy Institut Mashinovedeniya, Moscow, USSR). *Problemy Prochnosti*, vol. 2, Feb. 1970, p. 40-45. In Russian.

Results of a study of the mechanical properties of a number of two-, three-, and higher-component titanium alloys. A promising trend in the manufacture of such alloys for use in cryogenic technology is indicated. The advantages of alloying titanium with tantalum are described. It is shown that an optimal complex of mechanical properties at temperatures down to -225 C is possessed by alloys with a Ta-V-Mo content ranging from 3.9 to 6.1%, an alpha solid solution structure, and traces of a dispersed beta phase. A.B.K.

REEL/FRAME
19781961

Acc. Nr: **AP0043738**

Abstracting Service: **5/70**
INTERNAT. AEROSPACE ABST.

Ref. Code:
MR0370

A70-23788 Study of a part of the phase diagram of the Ti-Ta-V system (Issledovanie chasti diagrammy sostoiashchey Ti-Ta-V). V. S. Mikhayev and P. N. Nikitin. Akademiya Nauk SSSR, Izvestiya, *Metally*, Jan. Feb. 1970, p. 189-192. 8 refs. In Russian.

Study of the Ti-Ta-V system along three radial sections from the titanium corner to the Ta-V side with Ta/V ratios of 3:1, 1:1, and 1:3 up to 60 wt % sigma Ta, V. It is found that tantalum and vanadium form continuous solid solutions with beta titanium and have limited solubility in alpha titanium. The solubility of sigma Ta, V in alpha and beta titanium is determined along the investigated sections.

A.B.K.

A15

1/1

REEL/FRAME
19770144

/8

USSR

UDC 669.295*28

MIKHAYEV, V. S., NIKITIN, P. N., and KOSHELEV, P. F., Moscow

"The Mechanical Properties of Ti-Mo Alloys at Low Temperatures"

Moscow, Izvestiya Akademii Nauk USSR, Metally, No 4, Jul-Aug 72, pp 216-219

Abstract: The alloying of titanium with molybdenum in combination with zirconium in the α -solid solution range makes it possible to produce alloys with high mechanical properties at low temperatures. The rules of the variation of mechanical properties of Ti-Mo alloys and the effects of the structure and stress concentrations on these alloys were investigated at +20 and -269°C. The strength properties of the alloys increased with increasing Mo contents, but the plasticity decreased at both temperatures. Ti-Mo alloys with 4.0 wt% Mo are of practical interest in cryogenic technology, because they are plastic at sufficiently high strength and have low susceptibility to stress concentration over a large low-temperature range. A significant heterogenization of the structure in alloys with Mo content > 4.0-5.0 wt% results in decreased plasticity and increased susceptibility to stress concentrations. Three illustrations, four bibliographic references.

1/1

USSR

UDC: 621.762.2:669.1'24(088.8)

PUTIMTSEV, B. N., GRATSIANOV, Yu. A., KOZLOV, A. G., MINCHER, A. N.,
LEVINZON, V. Kh., STERLIN, R. G., BAKANOVA, T. P., BIAEZIN, K. P., NIKHEYEV,
V. V.

"Method of Production of Iron-Nickel Alloy Powders"

USSR Author's Certificate Number 343771, Filed 7/04/71, Published 11/08/72
(Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract
No 8G394P).

Translation: A method is suggested for embrittlement of Fe-Ni alloys,
designed for the production of powders by mechanical grinding. Fe-Ni alloys
are embrittled by introduction of S to the initial melt. In order to increase
the dispersion and technological properties of the powders, 0.03-0.07 wt %
oxygen is also introduced to the initial melt, with a ratio of oxygen to S of
2.0-7.0.

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USSR

Construction

UDC 624.131.43:531.5

CHERKASOV, I. I., MIKHEEV, V. V., PETRUKHIN, V. P., PAKULIN, V. A., SNARSKII, A.S., and SHVAREV, V. V.

"Effect of Gravity on Mechanical Properties of Soils"

Moscow, Osnovaniya, fundamenty i mekhanika gruntov. No 1, 1970, pp 14-18

Abstract: Results are given of an experimental investigation of the effect of gravity on mechanical properties of soils, conducted in an aircraft and in a centrifuge. The first series of experiments were conducted in a specially equipped TU-104 aircraft flying along a specific trajectory. Along a section of this trajectory the soils were subjected to an acceleration $a = 1.62\text{m/sec}^2$ for 8 seconds, i.e. $1/6\text{ g}$ at ground level. The second series were conducted on a centrifuge, on which soils were subjected to 55.1, 98.1 and 196.2m/sec^2 acceleration, i.e. 5.6, 10, and 20 g . Both series of tests contained controlled tests in motionless aircraft and centrifuge. The overload coefficient $\eta = a/g$ varied from 0.165 to 20. Experimental setups and techniques for both the aircraft and centrifuge tests are described in detail. A photograph of the airborne equipment and a schematic drawing of the centrifuge are presented. Four types of soils were tested, whose physico-mechanical properties are given in a table. They are: 1/silica sand;

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CHERKASOV, I.I., et al., Osnovaniya, fundamenty i mekhanika gruntov. No 1, 1970, pp 14-18

2) agloporite gravel with negligible bond and of low specific weight; 3) keramsit gravel, loose material with rounded granules; 4) soft plastic clay of great specific weight, with strong bond and small internal friction angle. The results are presented in graphs and tables. They show that at 6g the angle of rest in agloporite and keramsit gravels decreases while it remains nearly constant in the silica sand. An analysis of motion picture records shows that a certain reduction in angle of rest is related to the aircraft vibration. Thus, it is considered that the variation of gravity has no effect on the angle of rest of loose granular soils. A specially adapted E-700 oscillograph was used for recording experiments in the centrifuge. The deformation aptitude of both type of soils was determined, taking the sag of the pressing stamp under 1kg/cm^2 pressure on the base, as a comparability criterion.

A comparison with theoretical data for carrying power shows that: 1) the gravity variation in accordance with the theory of limit equilibrium, substantially affects the carrying power of sand and weakly affects that of plastic clay; 2) in contrast to the theory of limit equilibrium the carrying power of sand varies a little less than in direct proportion to gravity. The carrying power of clay does not remain constant, but increases slightly with gravity. The causes of these discrepancies are discussed and tentatively explained. Orig. art. has: 6 figures, 7 tables.

2/2

- 27 -

1/2 042 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--CONTROL OF NOISE AND VIBRATIONS OF SHIP INTERNAL COMBUSTION ENGINES
-U-
AUTHOR--(02)-SKURIDIN, A.A., MIKHEYEV, YE.M.
COUNTRY OF INFO--USSR
SOURCE--CONTROL OF NOISE AND VIBRATIONS OF SHIP INTERNAL COMBUSTION
ENGINES (BOR'BA S SHUMOM I VIBRATSIYEV SUDOVYKH DVS) LENINGRAD,
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PROPULSION AND FUELS
TOPIC TAGS--INTERNAL COMBUSTION ENGINE, VIBRATION DAMPING, DIESEL ENGINE,
SHIP NOISE, SHIPBUILDING ENGINEERING, NOISE REDUCTION, MONOGRAPH,
STRUCTURE VIBRATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FNAME--3009/0319 STEP NO--UR/0000/70/000/000/0001/0324
CIRC ACCESSION NO--AM0139136
UNCLASSIFIED

2/2 042

UNCLASSIFIED

PROCESSING DATE--04DEC79

CIRC ACCESSION NO--AM0139136

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT, TABLE OF CONTENTS: CHAPTER I
FUNDAMENTALS OF ACOUSTICS 3. II MAIN SOURCES OF NOISE AND VIBRATIONS
OF SHIP INTERNAL COMBUSTION ENGINES. NATURE OF NOISE FORMATION 17.
III METHODS FOR CONTROL OF NOISE AND VIBRATIONS OF SHIP DIESELS AT THE
SOURCE 119. IV METHODS FOR REDUCTION OF NOISE AND VIBRATIONS OF
INTERNAL COMBUSTION ENGINES ON SHIPS 160. THE BOOK DEALS WITH CONTROL
OF NOISE AND VIBRATIONS OF SHIP INTERNAL COMBUSTION ENGINES. IT WAS
WRITTEN FOR SPECIALISTS WORKING ON NOISE REDUCTION ON SHIPS, AS WELL AS
EMPLOYEES OF THE DIESEL CONSTRUCTION INDUSTRY.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--NORMS OF THE ENZYMIC ACTIVITY OF LEUKOCYTES -U-
AUTHOR--(05)-MIKHEYEVA, A.I., KARDOS, V.S., KLIONSKAYA, A.G., MAGID, E.M.,
MAGID, A.E.
COUNTRY OF INFO--USSR
SOURCE--LAB. DELO 1970, (1), 5-7
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LEUKOCYTE, ENZYME ACTIVITY, LYMPHOCYTE, ESTERASE, PHOSPHATASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0212

STEP NO--UR/9099/70/000/001/0005/0007

CIRC ACCESSION NO--AP0119208

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--300CT70

CIRC ACCESSION NO--AP0119208

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ENZYMIC ACTIVITIES IN LEUKOCYTES

OF 50 HEALTHY MEN WERE DETD. BY THE KAPLOW METHOD (1955). ALK. PHOSPHATASE IN NEUTROPHILS WAS 5-67 UNITS, MEAN 27.5 UNITS. ACCORDING TO THE ACTIVITY OF ACID PHOSPHATASE (I) LEUKOCYTES WERE CLASSED INTO 4 GROUPS. (1) NO ACTIVITY IF CYTOPLASMA DID NOT CONTAIN GRANULES (2) CYTOPLASMA WITH 25-50% OF EQ. L.T. 5 RALES (3) 6-20% (4) LARGER THAN 20 GRANULES. IN NEUTROPHILS, THE 1ST 2 GROUPS WERE MOST COMMON (MEAN 38.6 UNITS); 8-62% OF THE NEUTROPHILS CONTAINED 1. LYMPHOCYTES CONTAINED 6-60 UNITS (MEAN 26.8 UNITS) 1. NONSPECIFIC ESTERASE (II) ALSO CLASSED LEUKOCYTES INTO THE SAME GROUPS AS I AND IN NEUTROPHILS IT ACTIVITY WAS THAT OF LEUKOCYTES 3; 20-90% OF THE LYMPHOCYTES CONTAINED 5-13 UNITS, MEAN 72.4 UNITS).

FACILITY: GL. KLIN. VOEN. GOS. IM. BURDENKO, MOSCOW, USSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--115 P70
TITLE--SYNTHESIS OF THE VIRUS SPECIFIC PROTEINS OF A CONDITIONALLY LETHAL
MUTANT OF POLIOVIRUS UNDER NONPERMISSIVE CONDITIONS -U-
AUTHOR--GENDON, YU.Z., BABUSHKINA, L.M., MIKHEYEVA, A.Y., SOLOVYEV, G.YA.
COUNTRY OF INFO--USSR M
SOURCE--VIROLOGY 1970, 40(3), 595-604
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PROTEIN SYNTHESIS, POLIOMYELITIS, RNA, DNA, VIRUS, MUTANT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1985/1659 STEP NO--US/0000/70/040/003/0595/0604
CIRC ACCESSION NO--AP0101714
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--11SEPT0

CIRC ACCESSION NO--AP0101714
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE FUNCTION OF THE PARENTAL RNA OF A TEMP. SENSITIVE (TS) MUTANT OF POLIOVIRUS WAS STUDIED. ONE OF THE METHODS OF INVESTIGATION USED UNDER NONPERMISSIVE CONDITIONS OF THE EXPTS. COULD DEMONSTRATE SYNTHESIS OF VIRAL RNA OR FUNCTIONALLY ACTIVE RNA POLYMERASE. INHIBITION OF SYNTHESIS OF CELLULAR MACROMOLS. (RNA, DNA, AND PROTEINS) DUE TO THE FUNCTION OF THE VIRUS GENOME WAS OBSD. UNDER NONPERMISSIVE CONDITIONS AS WELL AS THE SYNTHESIS OF STRUCTURES WITH SEDIMENTATION CONSTS. OF 10 S AND 5 S WHICH REACTED WITH SPECIFIC ANTIVIRAL SERUM. IT IS SUGGESTED THAT SYNTHESIS OF THESE STRUCTURES AND OF PROTEINS INHIBITING SYNTHESIS OF CELLULAR MACROMOLS. OCCURS UNDER THE DIRECTION OF PARENTAL POLIOVIRUS RNA.

UNCLASSIFIED

1/2 039
TITLE--CURRENT OSCILLATIONS IN BETA CAROTENE FILMS --U--
AUTHOR--(03)-SHUMOV, YU.S., MIKHEYEVA, G.P., KOMISSAROV, G.G.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAU. NAUK SSSR 1970, 191(1), 70-2
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--SURFACE FILM, CURRENT DENSITY, VOLT AMPERE CHARACTERISTIC,
DIRECT CURRENT, LIGHT PULSE, IMPURITY LEVEL, OSCILLATION, PIGMENT,
BIOCHEMISTRY, HYDROCARBON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1483
STEP NO--UR/0020/70/191/001/0070/0072
LATO130412

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 039

CIRC ACCESSION NO--ATO130412
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. SURFACE TYPE CELLS WERE USED TO FOLLOW CURRENT VARIATIONS IN AMORPHOUS FILMS OF CAROTENE AND ITS MIXTS. WITH PROTOPORPHYRIN (II), USING A TYPICAL D. C. SOURCE WITH INTERMITTENT EXPOSURE TO LIGHT. THE RESULTING CURRENT VOLTAGE (I-V) CURVES ARE SHOWN. CURRENT OSCILLATIONS WERE OBSD. ONLY IN THE FILMS THAT HAD BEEN FORMED BY FLOWING AND NOT IN THE FILMS FORMED BY EVAPN. CONDENSATION. THE I-V CHARACTERISTICS OF THE FILMS SO PREPD. FROM THE MIXED PIGMENT HAD OHMIC BEHAVIOR AT LOW FIELDS; AS THE FIELD WAS RAISED TO SATN. UNDER BOTH DARK AND LIGHT CONDITIONS, THE CURRENT OSCILLATIONS BEGAN, AND THE VALUE OF THRESHOLD P. D. IN LIGHT NECESSARY FOR SUCH OSCILLATIONS WAS SMALLER THAN THAT IN THE DARK. AS THE CONCN. OF I INCREASED, THIS THRESHOLD P. D. DECLINED. THUS, THE IMPURITY INCREASED THE POPULATION OF MICROHETEROGENITIES IN THE VOL. OF THE PIGMENT AS WELL AS IN THE ZONE OF CONTACT WITH THE ELECTRODES.

FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr

AP0030822

Abstracting Service:
CHEMICAL ABST. 370

Ref. Code

2180078

60941d The infrared absorption spectra of thiocyanatoberyllates solvated by acetonitrile. Pochkaeva, T. I.; Mikhedeva, L. M.; Grigor'ev, A. I.; Gansel, A. (USSR). Zh. Neorg. Khim. 1970, 15(1), 87-91 (Russ). $MBe(NCS)_2 \cdot nMeCN$ (I) and $M_2Be(NCS)_4 \cdot nMeCN$, where $M = Cs, Rb, K, \text{ or } NH_4$, were prepd. by conventional metathetical reactions in $MeCN$. All these compds. have NCS coordinated to Be via N, and I compds. have 1 $MeCN$ coordinated to Be. Presence of bridging NCS was not observed. Frequencies of CS, CN, and NCS are assigned and tabulated. HMKJR

REEL/FRAME
19690818

UDC 550.834.05

USSR

BALASHKAND, M. I., SHEVELEV, V. A., TITERIK, A. I., MIKHAYEVA, L. V.,
MAYOROV, V. V., LOVLYA, S. A., Ramenskoye Department of the All-Union
Scientific Research Institute of Geophysics

"A Gas Detonation Installation"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 2, Jan 73, Author's Certificate No 362131, Division G, filed 24 Aug 67,
published 13 Dec 72, p 74

Translation: This Author's Certificate introduces a gas detonation installation consisting of tanks with oxidizer and fuel, measuring vessels, a detonation head, an explosive chamber, an exhaust chamber, electromagnetic valves, tubing, pipelines, and a unit for controlling the electromagnetic valve system. As a distinguishing feature of the patent, the reliability of explosion cutoff is improved by making the explosive detonation head in the form of cavities separated by valves. One of the cavities is equipped with a device for igniting the gas mixture, and is connected to the explosion chamber by a channel with check valves.

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Acc. Nr: **AP0043680**

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1970, Vol 58, Nr 2, pp 528-534

INVESTIGATION OF THE SUPERCONDUCTING PROPERTIES
AND STRUCTURE OF TIN FILMS OBTAINED BY REACTIVE
SPUTTERING

V. M. Gelyanov, A. P. Demidov, M. N. Mikhailov, A. A. Fuplov

The critical temperatures T_c , transverse critical magnetic fields H_{c2} and resistivities of microcrystalline tin films obtained by reactive cathode sputtering are measured. The relation between T_c and H_{c2} and the structure of films as studied with an electron microscope is investigated. It is found that increase of T_c and H_{c2} correlates with a decrease of the grain size. The electron mean free path l is determined on basis of the resistance and magnetic measurements. The dependence of H_{c2} on l is compared with the theoretical calculation.

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REEL/FRAZE
19770084

Surgery

USSR

UDC 616.12-089-78]-089:615.38]-07:612.6.02.017.1

SOLOV'YEV, G. M., RADZIVIL, G. G., KORENEVSKAYA, V. A., and KENTCHEVA, N. Ye.,
Institute of Clinical and Experimental Surgery, Ministry of Health USSR, and
Institute of Organ and Tissue Transplantation, Academy of Medical Sciences USSR,
Moscow

"Characteristics of the Immunobiological State of Patients Operated on Under Con-
ditions of Extracorporeal Circulation"

Moscow, Kardiologiya, Vol 10, No 10, Oct 70, pp 45-50

Abstract: The immunobiological state of patients with acquired and congenital heart diseases was determined before and after surgery performed with the help of extracorporeal circulation and without it. The criteria for determining the immunological state of the patients were: the complement titer; titer of alpha- and beta-hemagglutinins; and lymphocyte transformation into blasts in a culture of phytohemagglutinins. The effect of surgery on the complement titer was studied in 30 patients, 18 of whom were operated on with the help of extracorporeal circulation and 12 without it. Blood for titration was taken before the operation and in the early postoperative period. It was found that in 25 of the 30 patients, particularly those operated on with the help of extracorporeal

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USSR

SOLOV'YEV, G. M., et al, Kardiologiya, Vol 10, No 10, Oct 70, pp 45-50

circulation, the complement titer dropped from the 0.02-0.05 presurgical norm (as determined by 100% hemolysis with a hemolytic system of a 3 percent suspension of ram erythrocytes and hemolytic serum in a triple titer) to 0.03-0.10. The titer of alpha- and beta-hemagglutinins was studied in 24 patients, 14 of whom had undergone surgery with the help of extracorporeal circulation and 10 without it. These titers were determined by the method of salt agglutination at room temperature. A sharp decline in antibody titers during the immediate postoperative period occurred, particularly in patients who were operated on with the use of extracorporeal circulation. Complete inhibition of blast formation was noted in four patients operated on with the use of artificial circulation. The data obtained permit the conclusion that heart operations, particularly when performed under conditions in which extracorporeal circulation must be used, result in a temporary decline of the immunobiological activity of the organism. Restoration normally occurs within 7-8 days after the operation.

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Combustion

UDC 541.1.13

"USSR

TESNER, P. A., POLYAKOVA, M. M., MIKHAYEVA, S. S., All-Union Scientific Research Institute of Natural Gases, Moscow

"Kinetics of Pyrocarbon Formation During the Thermal Decomposition of Methane"

Moscow, Doklady Akademii Nauk SSSR, Vol 203, No 2, 1972, pp 402-405

Abstract: An experimental study was made to establish the order of the reaction of the formation of pyrocarbon during thermal decomposition of methane in the pressure range of 1-760 mm Hg. The experimental procedure and results are presented. Graphs are included showing the ratio of the actual hydrogen concentration to the concentration calculated by the reaction $CH_4 \rightarrow C + 2H_2$ at a

temperature of 800°, the relative rate of formation of pyrocarbon from the binary mixture of methane and hydrogen at 800°, and the rate constants for the formation of pyrocarbon from methane determined at atmospheric pressure and $E = 66$ kcal/mole and obtained by extrapolation of the methane pressure to zero with $E = 78$ kcal/mole. The results obtained differ from those observed earlier [P. A. Tesner, et al., Tr. Vsesoyuzn. n.-i. inst. prirod. gaz, Pererabotka i ispol'zovaniye prirodnogo gaza, No 40/48, 8, 1969]. At atmospheric pressure the hydrogen inhibition turned out to be appreciably less than in the presence of a vacuum. The Langmuir equation constant in a vacuum was 1,500, and at 1/2

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TESNER, P. A., et al., Doklady Akademii Nauk SSSR, Vol 203, No 2, 1972, pp 402-405

atmospheric pressure, 45. The observed disturbance of the first order at low methane pressure led to an increase in the first order constants obtained by extrapolation to zero pressure in the aforementioned paper by comparison with the constants found at atmospheric pressure in the present experiment. The mechanisms explaining these differences and the other experimental results are discussed in detail.

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- 7 -

UDC 632.95

USSR

SUPIN, G. S., BEZUGLYY, S. F., MAKAROVA, S. V., OVSISHCHENKO, M. R., KALASHNIKOVA, V. N., MIKHAYEVA, S. YA., and ZAKS, P. G.

"Mercurometric Volumetric Method of Determining Phthalophos (With Visual and Amperometric Endpoint)"

V sb. Khim. sredstva zashchity rast. (Chemical Agents for Plant Protection -- collection of works), vyp 1, Moscow, 1970, pp 81-83 (from RZh-Khimiya, No 11, Jun 72, Abstract No 111409)

Translation: A specimen containing phthalophos (I) is hydrolyzed in an alkaline medium, the resultant diethyl dithiophosphate is volumetrically analysed with 0.01 N $\text{Hg}(\text{NO}_3)_2$ in the presence of a 1% alcohol solution of diphenylcarbazone until the pink color becomes lilac blue. Amperometric titration is done with a vibrating platinum electrode or a dropping mercury electrode relative to a saturated Hg_2Cl_2 electrode. The sensitivity of amperometric titration is 0.06 mg of I, and that of the visual method is 0.6 mg of I.

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USSR

UDC 632.95

BEZUGLYY, S. F., KALASHNIKOVA, V. N., and MIKHEYEVA, S. YA.

"Emulsion Concentrates of Phosphamide and Their Chemical Stability"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protectants -- collection of works), vyp 1, Moscow, 1970, pp 276-280 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N472 by I. Fil'menshteyn)

Translation: A study was made of the chemical stability of 40% emulsifiable concentrates (EC) of phosphamide based on various solvents during storage at 1-5, 20-25 and 35°. The most stable is an EC containing cyclohexanone and OP-7. In 15 months the decomposition of the phosphamide in such an EC was 1.87% at 1-5°, 3.67% at 35°, and 2.63% at 20-25° in 25 months and 20 days.

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USSR

UDC: 669.295'293:669.788

MIKHEYEVA, V. I., CHERTKOV, A. A., Moscow

"The Hydrogenation of Alloys of Titanium with Niobium"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 6, 1973, pp 96-100.

Abstract: The authors studied the hydrogenation of Ti-Nb system alloys and certain properties of the hydride phases formed. It was established that the absorption of hydrogen by alloys containing up to 79 at. % Nb remains practically constant and corresponds to 2 g.at H/g.at Me. For hydrogenated alloys containing less than 79 at. % niobium, a face-centered cubic lattice similar to that of CaF_2 was established, while further increases in the concentration of niobium cause the appearance of a second phase with a body-centered cubic structure similar to niobium monohydride. The products of hydrogenation of alloys with up to 79 at. % Nb, characterized by the maximum absorption of hydrogen and face-centered cubic structure, can be looked upon as solid solutions of substitution of titanium dihydride and niobium dihydride.

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1/2 017
UNCLASSIFIED
TITLE--SODIUM IODIDE, CESIUM IODIDE, ALUMINUM IODIDE, POTASSIUM
IODIDE, CESIUM IODIDE, ALUMINUM IODIDE, AND RUBIDIUM IODIDE, CESIUM
AUTHOR--(03)--ARKHIPOV, S.M., REVZINA, T.V., MIKHEYEVA, V.I.
COUNTRY OF INFO--USSR
SOURCE--Zh. NEORG. KHIM. 1970, 15(3), 820-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHASE DIAGRAM, SOLID SOLUTION, IODIDE, SODIUM COMPOUND, CESIUM
COMPOUND, ALUMINUM COMPOUND, RUBIDIUM COMPOUND, EUTECTIC MIXTURE,
MULTICOMPONENT CHEMICAL MIXTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/1717
STEP NO--UR/0078/70/015/003/0820/0824
CIRC ACCESSION NO--AP0115546
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 017

CIRC ACCESSION NO--AP0115546

ABSTRACT/EXTRACT--(U) GP-O-

ABSTRACT. TRIANGLE PHASE DIAGRAMS OF
MI-CSI-ALI SUB3 SYSTEMS (WHERE M EQUALS NA, K, OR Rb) SPLIT INTO 4
SECONDARY TRIANGULAR PHASE DIAGRAMS. THE SECTIONS NAI-ALI SUB3-CSI-ALI
SUB3 (WHERE N EQUALS 1 OR 2) AND NAI-CSI-ALI SUB3 APPEAR AS QUASIBINARY
SYSTEMS FORMING LIMITED SOLID SOLNS. AND EACH HAVING ONE EUTECTIC, I.E.
AT 165 AND SIMILAR TO 43 MOLE PERCENT CSI-ALI SUB3, 150 AND SIMILAR TO
46 MOLE PERCENT CSI-2ALI SUB3, AND 240DEGREES AND SIMILAR 8 MOLE PERCENT
NAI, RESP. PHASE DIAGRAMS OF SYSTEMS OF CSI-ALI SUB3 WITH KI-ALI SUB3
AND RbI-ALI SUB3 ARE CONSTRUCTED. THEY FORM EUTECTICS, AT 175DEGREES
AND SIMILAR TO 59 MOLE PERCENT KI-ALI SUB3 AND SIMILAR TO 195DEGREES AND
SIMILAR TO 75 MOLE PERCENT RbI-ALI SUB3, RESP. THE SYSTEM OF RbI-ALI
SUB3 HAS LIMITED SOLID SOLY. AT BOTH CONCENTRATIONAL EXTREMES.
EUTECTICS OF THE TERNARY SYSTEM NAI-CSI-ALI SUB3 ARE (M.P., MOLE PERCENT
NAI, AND MOLE PERCENT CSI GIVEN): 115DEGREES, 23.4, 5.5; 145DEGREES,
22.0, 21.0; 160DEGREES, 31.0, 21.0; AND 235DEGREES, 2.0, 53.0.

UNCLASSIFIED

1/2 014
UNCLASSIFIED
PROCESSING DATE--20NOV70
TITLE--PHASE DIAGRAM OF A POTASSIUM BOROHYDRIDE, POTASSIUM
CHLORIDE, POTASSIUM BROMIDE SYSTEM -U-
AUTHOR--(03)-ZAPOLSKIY, S.V., TOLMACHEVA, L.N., MIKHEYEVA, Y.I.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 840-2
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHASE DIAGRAM, SOLID SOLUTION, POTASSIUM BROMIDE, POTASSIUM
CHLORIDE, BOROHYDRIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/1715
STEP NO--UR/0078/70/G15/003/0340/0342
CIRC ACCESSION NO--AP011594
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 014

CIRC ACCESSION NO--AP0115544

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. A SOLIDUS DIAGRAM OF THE KBH
SUB4-KCL-KBR SYSTEM IS CONSTRUCTED BY DETN. OF TWO CROSS SECTIONS OF KBH
SUB4 AND 60:40 MOLE PERCENT KBA:KCL AND AT 50 MOLE PERCENT KBH SUB4.
THE DATA ARE TABULATED. THE SYSTEM FORMS A CONTINUOUS SERIES OF SOLID
SOLNS. WITH A SADDLE POINT AT 610DEGREES AND A REGION OF HIGH KBH SUB4
CONCN.
FACILITY: INST. DBSHCH. NEORG. KHIM. IN. KURNAKOVA,
MOSCOW, USSR.

UNCLASSIFIED

1/2 017
TITLE--REACTION OF POTASSIUM BOROHYDRIDE WITH LITHIUM CHLORIDE --U-
AUTHOR--(03)--ZAPCLSKIY, S.V., STERLYADKINA, Z.K., MIKHEYEVA, V.A.,
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(2), 404-12
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--THERMOGRAPHIC ANALYSIS, POTASSIUM COMPOUND, BOROHYDRIDE,
LITHIUM CHLORIDE, SOLID SOLUTION, CRYSTALLIZATION, EUTECTIC MIXTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/1707
CIRC ACCESSION NO--AP0115536
UNCLASSIFIED
PROCESSING DATE--20NOV70
M

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 017

CIRC ACCESSION NO--AP0115536

ABSTRACT/EXTRACT--(U) GP-C-

ABSTRACT. REACTION OF KBH SUB4 WITH LICI WAS STUDIED THERMOGRAPHICALLY. THE REACTION STARTS AT 140DEGREES. THE MELTING DIAGRAM OF THE KBH SUB4-LICI-KCL-LIBH SUB4 SYSTEM WAS CONSTRUCTED. THE SYSTEM HAS A KCL-LICI EUTECTIC AT 150DEGREES AND HAS REGIONS OF SIMULTANEOUS CRYSTN. OF SOLID SOLNS. OF KBH SUB4-KCL AND LIBH SUB4-LICI SUB SYSTEMS.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--FUSIBILITY DIAGRAM OF SODIUM BOROHYDRIDE SODIUM HYDROXIDE -U-
AUTHOR--(02)-KUZNETSOV, V.A., MIKHEYEVA, V.I. *m*
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(6), 1658-62
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SODIUM HYDROXIDE, HYDRIDE, SODIUM COMPOUND, BORON COMPOUND,
THERMOGRAVIMETRIC ANALYSIS, TEMPERATURE DEPENDENCE, PHASE DIAGRAM,
THERMAL DECOMPOSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/1391 STEP NO--08/0078/10/015/005/1658/1662
CIRC ACCESSION NO--AP0135065
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 032

CIRC ACCESSION NO--AP0135065

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE BEHAVIOR OF NABH SUB4 -NABH MIXT., HAVING 0-100PERCENT CONCN. OF COMPONENTS, DURING HEATING (7-30DEGREES-MIN) WAS STUDIED THERMOGRAVIMETRICALLY. DUE TO INTERFERENCE OF EVOLVING H, ONLY A PARTIAL PHASE DIAGRAM OF THE SYSTEM IS CONSTRUCTED. AT 200-500DEGREES, THE SYSTEM FORMS A EUTECTIC TYPE EQUIL. AT SIMILAR TO 240DEGREES, H STARTS TO EVOLVE AND NABH AND NABO SUB2 FORM AS BY PRODUCTS. THE LAST 2 COMPOS. FORM A NEW EUTECTIC, N. 450DEGREES, WITH AN EXCESS OF NABH SUB4.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SYNTHESIS OF ALUMINUM TETRAHYDROBORATE BY AN EXCHANGE REACTION OF
ALUMINUM CHLORIDE WITH ALKALI METAL TETRAHYDROBORATES --L--
AUTHOR--(02)--MIKHEYEVA, V.I., ZAPOLSKIY, S.V.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 633-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL SYNTHESIS, ALUMINUM CHLORIDE, MOLYBDENUM CHLORIDE, ALKALI
METAL COMPOUND, BORON COMPOUND, HYDRIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/1870 STEP NO--0078/70/015/003/0633/0637
CIRC ACCESSION NO--AP0115689
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0115689

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. AL(BH SUB4) SUB3 WAS PREPD. BY FUSING ALCL SUB3 WITH KBH SUB4 (H EQUALS K OR LI) OR WITH A LICI-45 MOLF PERCENT KBH SUB4 MELT. THE REACTION WAS PERFORMED IN DRY N ATM. AND THE PRODUCT WAS WASHED WITH C SUB6 H SUB6 (DRIED WITH LHM). ANY LEAK IN THE REACTION SYSTEM CAUSED AN EXPLOSION. THE REACTION WITH FUSED LICI-KBH SUB4 MIXT. IS ESP. CONVENIENT AND TAKES PLACE AT LOWER TEMPS. THAN A REACTION WITH KBH SUB4 WITHOUT A SOLVENT.

UNCLASSIFIED

1/2 021
UNCLASSIFIED
TITLE--SOLUBILITY OF LITHIUM BOROHYDRIDE AND ALUMINOHYDRIDE IN DIETHYL...
ETHER -U-
AUTHOR--MIKHEYEVA, V.I., TROYANOVSKAYA, YE.A. M
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(2), 509-11
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SOLUBILITY, ETHER, BOROHYDRIDE, LITHIUM COMPOUND, ALUMINUM
COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1984/1256
STEP NO--UR/0078/70/015/002/0509/0511
CIRC ACCESSION NO--AP0055927
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

2/2 021

CIRC ACCESSION NO--AP0055927

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT 0 AND 25 DEGREES THE SOLY. OF
LIBH SUB4 IN ET SUB2 0 IS 1.32 AND 4.5 WTPERCENT AND THAT OF LIALH SUB4
IS 21.3 AND 28.3 WT. PERCENT, RESP.

0123

UNCLASSIFIED

USSR

UDC 669.661.42.295

SOROKIN, I. P., STREMILOVA, N. N., MIKHEYEVA, V. V., CHUMARNYY, V. I.

"Reprocessing Sinters From Mine Chlorinators"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya
Publishing House, Vol VI, 1970, pp 140-142

Translation: Research was conducted on dechlorinating sinters of mine chlorinators using damp air in a boiling medium. The effect of the process temperature, length of the process, and expenditure of dampened air on the degree of sinter dechlorination was studied. On the basis of laboratory experiments, it was demonstrated that at a process temperature of 300-400°C using blasts of dampened air in a boiling medium, it is possible to achieve 75-80% dechlorination of sinters from mine chlorinators. Reprocessing sinters containing 20-30% titanium dioxide makes it possible to raise the extraction of titanium during the production of titanium tetrachloride by 2-2.5%. Two illustrations and one table.

1/1

USSR

UDC 669.295.046.4

SOROKIN, I. P., STREMILOVA, N. N., MIKHIEYEVA, V. V., and CHUMARNYY, V. L.

"Processing the Sinter From Shaft-Type Chlorators"

Sb. tr. Vses. n.-i. i proyekt. in-t titana, [Collected works of All-Union Scientific-Research and Planning Institute for Titanium], 6, 1970, 140-142, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No. 1 G181 by the authors).

Translation: Studies are presented on dechlorination of shaft-type chlorinator sinter by moist air in a fluidized bed. The influence of temperature and duration of the process and consumption of moist air on the degree of dechlorination of the sinter is studied. When the process is performed at a temperature of 300-400° using blowing of moist air through the fluidized bed, 75-80% dechlorination can be achieved. Processing of sinter containing 20-30% TiO_2 allows the extraction of Ti in the production of $TiCl_4$ to be increased by 2-2.5%. 2 figures; 1 table.

1/1

USSR

UDC 669.715.721.725.295.296.74.26.013.29(033.8

BELOUSOV, N. N., MIKHIEYEVA, Ye. N., ZHOLOBOVA, Ye. P., KASHNEVNIK, L. Ya.,
DODONOV, A. A., YEGOROVA, V. A., YEVSTRATOV, Yu. A., POPKOVA, V. A., BOTYANOVSKIY,
M. G.

"Aluminum-Based Casting Alloy"

USSR Author's Certificate, No. 253375, Filed, 19/06/67, Published, 8/10/70.
(Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5
I670P).

Translation: The alloy has the following composition (%): Mg 8-9.5, Be 0.03-0.15,
Ti 0.05-0.15, Zr 0.05-0.2, Mn 0.1-0.3, Cr 0.05-0.15, remainder Al. The alloy has
high technological properties, corrosion resistance, and stability of properties.
In the cast state, the alloy, when cast in a sand mold, has σ_b 18-23 kg/mm², δ 0.7
- 2.5%, α_H 0.2-0.4 kgm/cm²; when cast in a chill mold - σ_b 27-33 kg/mm², δ 4 -
12%, α_H 0.4 - 1.2 kgm/cm².

1/1

Transformation and Structure

UDC 620.187

. USSR

VIL'DANOVA, N. F., NOSKOVA, N. I., PAVLOV, V. A., BELOUSOV, N. N., and
MIKHEYEVA, Ye, N., Institute of Metal Physics, Academy of Sciences USSR

"Electron Microscope Study of Al-Mg Alloys Cooled With Varying Rates From
the Homogenization Temperature"

Sverdlovsk, Fizika Metallov i Metallovedeniye, No 6, Vol 30, Dec 70, pp 1264-
1269

Abstract: Changes were investigated in the structure of alloys Al+Mg(11%)
and Al+Mg(11%)+Ti, Zr, Be, Mn (0.1%) which result in connection with the use
of different cooling rates after a homogenizing anneal. The cast and heat-
treated alloys were rolled into plates measuring 20 x 50 x 0.2 mm and then
subjected to a homogenizing anneal at 435° C for 20 hours with different
cooling rates: quenched in cold water (+20), quenched in hot water (+90),
and air cooled.

Thin foils of the alloys were investigated by electron microscopy. The foils
were made from plates, which had been heat treated, by chemically thinning
them in a 40% solution of sodium hydroxide with subsequent electropolishing

1/2

USSR

VIL'DANOVA, N. F., et al, Fizika Metallov i Metallovedeniye, No 6, Vol 30, Dec 70, pp 1264-1269

in an electrolyte at +70 C. The investigation was conducted with an SEM-3 microscope.

It was shown that aging processes take place in these alloys independently of the cooling rate and grains are detected in the structure along the boundaries and in the volume of which there are precipitations. Complex alloying accelerates aging: in the structure of the alloy after cooling at the maximum rate practically no grains were observed without precipitates, but coagulation of the precipitated phases takes place. A decrease in the cooling rate leads to a fuller passage of aging processes and to phase coagulation in all the alloys.

2/2

Acc. Nr: **AP0034678** **M**

Ref. Code: UR 0297 **1**

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 2, pp **116-120**

REGULARITIES OF ABSORPTION AND DISTRIBUTION OF SEMI-SYNTHETIC
PENICILLINS — METHICILLIN AND OXACILLIN IN PATIENTS WITH CHRONIC
KIDNEY INSUFFICIENCY

Vasina, T. A.; Ved'mina, Ye. A.; Sagalovich, G. M.;
Mikheyeva, Ye. V.; Levitskiy, E. R.

Institute for Clinical and Experimental Surgery, Microbiology Department of Central
Post-Graduate Medical Institute, Moscow

The dynamics of methicillin and oxacillin distribution in the blood of patients with severe affections of the kidney function and impaired clearance for urea was significantly changed, resulting in very high blood levels of the antibiotics and their prolong circulation in the organism, which was parallel to the degree of the affection of the kidney excretion function. The process of hemodialysis favoured rapid excretion of the antibiotics and provided the dynamics of their levels close to that in patients with normal functions of the kidneys.

32.

REEL/FRAME

19711383

02

1/2 014 UNCLASSIFIED PROCESSING DATE--3000170
TITLE--IN VITRO EFFECT OF SEMI SYNTHETIC PENICILLINS ON ORGANISMS CAUSING
SURGICAL INFECTIONS -U-
AUTHOR--(05)--VASINA, T.A., FRISHMAN, YE.M., VEDHINA, YE.M., GAMALEYA, L.A.,
~~MIKHAYEVA~~, YE.V.
COUNTRY OF INFO--USSR
SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 6, PP 528-532
DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PENICILLIN, STAPHYLOCOCCUS INFECTION, TETRACYCLINE, ANTIBIOTIC
RESISTANCE/(U)AMPICILLIN ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/2002

STEP NO--UR/C29T/70/015/006/0528/0532

CIRC ACCESSION NO--AP0125591

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--300011

2/2 014
CIRC ACCESSION NO--AP0125591
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NARROW AND BROAD SPECTRUM
SEMISYNTHETIC PENICILLINS WERE STUDIED WITH RESPECT TO THEIR EFFECT ON
STAPHYLOCOCCI CAUSING SURGICAL INFECTIONS. IT WAS SHOWN THAT MOST OF
THE ISOLATES WERE MAINLY RESISTANT TO THE WIDELY USED ANTIBIOTICS
(BENZYL PENICILLIN 87 PER CENT, TETRACYCLINES 56 TO 70 PER CENT). IN
VITRO STUDIES ON THE EFFECT OF SEMISYNTHETIC PENICILLINS DEMONSTRATED
THAT IN SPITE OF A SHORT PERIOD OF THEIR USE IN MEDICAL PRACTICE,
STRAINS RESISTANT TO THE ANTIBIOTIC CONCENTRATIONS IN THE MOST OCCURRED
ALONG WITH SENSITIVE CULTURES (NARROW SPECTRUM SEMI SYNTHETIC
PENICILLINS 19.2 TO 28.4 PER CENT, PYOPEN 18 PER CENT, AMPICILLIN 39.5
PER CENT).
FACILITY: INSTITUTE FOR CLINICAL AND EXPERIMENTAL
SURGERY, CENTRAL POST GRADUATE MEDICAL INSTITUTE, MOSCOW.

UNCLASSIFIED

1/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--NEUROLOGICAL DISORDERS IN PATIENTS WITH PRIMARY GLAUCOMA -U-

AUTHOR--(02)--MIKHEYEVA, YE.G., GUREVICH, I.I.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 3, P 29-34

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NERVOUS-SYSTEM DISEASE, METABOLISM, EYE DISEASE, HYPERTENSION,
ENDOCRINE SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1907

STEP NO--UR/0357/70/000/003/0029/0034

CIRC ACCESSION NO--AP0129256

UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129256

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METICULOUS NEUROLOGICAL EXAMINATION AND A DETAILED STUDY OF METABOLIC FUNCTION IN 39 PATIENTS WITH PRIMARY GLAUCOMA ENABLED IT TO ELICIT INVOLVEMENT OF THE HYPOTHALAMIC REGION IN ALL OF THESE PATIENTS. IN A FEW CASES VEGETATIVE VASOVISCERAL CRISES AND SYNDROMES OF AN UPSET THERMOREGULATION WERE RECORDED. IN THE MAJORITY OF CASES HYPOTHALMIC INVOLVEMENT IN GLAUCOMATOUS PATIENTS WAS MADE EVIDENT THROUGH VEGETATIVE TESTS AND AN INVESTIGATION INTO DIFFERENT TYPES OF METABOLISM, AND IT MANIFESTED ITSELF IN NEURO ENDOCRINE AND METABOLIC SHIFTS AND CERTAIN PSYCHOPATHOLOGICAL DISTURBANCES, IN ALL LIKELIHOOD OF HYPOTHALMIC ORIGIN. HYPOTHALMIC PATHOLOGY IS NOT EXPRESSED IN VIOLENT CRISES, WITH NONE TOO GROSS VASOVEGETATIVE AND METABOLIC ENDOCRINE CHANGES BEING ENCOUNTERED MOST OFTEN. THE AUTHORS' OBSERVATIONS SUGGEST AN IMPLICATION OF HYPOTHALMIC REGION IN PATIENTS WITH PRIMARY GLAUCOMA AND THIS SHOULD BE REFLECTED IN INTERPRETING THE PATHOGENESIS AND TREATMENT OF THIS AFFECTION. FACILITY: KAFEDRA GLAZNYKH BOLEZNEY I KAFEDRA NERVNYKH BOLEZNEY I NEYROKHIRURGII SVEROLOVSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EPR SPECTRA OF (CU(TREN)OH) PRIME POSITIVE TREN EQUALS 2,2 PRIME,2
PRIME PRIME, NITRILOTRIS, ETHYLAMINE WITH TRIGONAL BIPYRAMIDAL STRUCTURE
AUTHOR--(03)-SENYUKOVA, G.A., MIKHEYKIN, I.D., ZAMARAYEV, K.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 23-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--EPR SPECTRUM, COPPER COMPLEX, AMINE, ABSORPTION BAND SPECTRUM,
LOW TEMPERATURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/1232

STEP NO--UR/0192/70/011/001/0023/0026

CIRC ACCESSION NO--AP0116694

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0116694

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. EPR SPECTRA OF THE TITLE COMPLEX

IN THE LIQ. (25DEGREES) AND GLASSY STATE (MINUS 195DEGREES) AND

ABSORPTION SPECTRA IN THE VISIBLE REGION WERE MEASURED. BANDS AT 11,600

AND 14,800CM PRIME NEGATIVE1 WERE APPARENT IN THE ABSORPTION SPECTRUM.

EPR SPECTRA IN THE GLASSY STATE HAD UNUSUAL FORM AND PARAMETERS GSUB

PARALLEL TO 2 EQUALS 2.006 IS LESS THAN G PERPENDICULAR TO EQUALS 2.210

AND MAGNITUDE OF A SUB PARALLEL TO EQUALS 0.68 TIMES 10 PRIME NEGATIVE2

CM PRIME NEGATIVE1 IS LESS THAN MAGNITUDE OF A PERPENDICULAR TO EQUALS

1.11 TIMES 10 PRIME NEGATIVE2 CM PRIME NEGATIVE1. A COMPRESSED TRIGONAL

BIPYRAMIDAL STRUCTURE WITH AN UNPAIRED ELECTRON IS SUGGESTED FOR

(CU(TREN)OH) PRIME POSITIVE.

FACILITY: INST. KHIM. FIZ.,

MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 669.295.053.28

MIKHIN, YA. YA., MAL'SHIN, V. M.

"Basis for Structural and Technological Parameters of Reducing Titanium with Respect to Economic Criteria"

V sb. Metalloterm. protsessy v khimii i metallurgii (Metallothermic Processes in Chemistry and Metallurgy -- collection of works), Novosibirsk, Nauka Press, 1971, pp 102-105 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G216)

Translation: The theoretical principles of selecting the structural, technological, and operating parameters of the process of reducing Ti from $TiCl_4$ by magnesium using a mathematical model and economic criteria are discussed.

1/1

1/2 034 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ON THE CAPTURE OF GAS DISSOLVED IN A SOLID BY A MOVING GAS BUBBLE
-U-
AUTHOR--(02)-MIKHLIN, E.YA., SEMIONOV, L.P. *M*
COUNTRY OF INFO--USSR
SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 37, NR 1, PP 39-42
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--SOLUBILITY, GAS DIFFUSION, METAL CONTAINING GAS, GAS STATE,
GAS KINETICS
CONTROL MARKIN -NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/1082 STEP NO--GE/0030/70/037/001/0039/0042
CIRC ACCESSION NO--AP0107591
UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0107591

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SOLUTION IS FOUND OF THE EQUATION DESCRIBING THE ENTERING OF GAS ATOMS DISSOLVED IN A SOLID INTO A MOVING GAS BUBBLE. ITS BEHAVIOUR ENABLES ONE TO CONFIRM THE RECENT ANALYSIS (1) OF CONDITIONS UNDER WHICH THE GAS ENTERING A MOVING BUBBLE WILL BE ESSENTIALLY DIFFERENT FROM THAT OF AN UNMOVED ONE.
FACILITY: INSTITUTE OF PHYSICS AND POWER ENGINEERING, OBNINSK.

UNCLASSIFIED

172 026 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--FRICTION COEFF. AS DEPENDENT ON HARDNESS. EXPERIMENTAL VERIFICATION
-U-
AUTHOR--(02)--MIKHIN, N.M., LYAPIN, K.S.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(3), 50-6
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--FRICTION COEFFICIENT, COPPER ALLOY, METAL FRICTION, METAL
HARDNESS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0848 STEP NO--UR/0139/70/013/003/0050/0056
CIRC ACCESSION NO--AT0132938
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132938

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF THE FRICTION COEFF. ON HARDNESS IS STUDIED ON AN IDEALLY PLASTIC CONTACT OF A RIGID ROUGH SURFACE WITH A PLASTICALLY DEFORMABLE HALF SPACE IN THE PRESENCE OF ADHESION IN THE CONTACT ZONE. THE FRICTION COEFF. IS A FUNCTION OF THE PENETRATION AND ADHESION IN THE CONTACT ZONE. THE ADHESION COMPONENT OF THE FRICTION COEFF. IS EQUAL TO THE RATIO OF THE SHEAR RESISTANCE OF THE ADHESION BOND TO THE BRINELL HARDNESS OF THE MATERIAL. THE DEPENDENCE OF THE TANGENTIAL STRENGTH OF THE ADHESION BOND ON THE HARDNESS WAS STUDIED ON PLANE SAMPLES OF VARIOUS TYPES OF CU. THE SPHERICAL INDENTORS WERE 10 MM IN DIAM. THE TANGENTIAL STRENGTH OF THE ADHESION BOND INCREASES WITH THE HARDNESS OF THE SAMPLES. THE ADHESION COMPONENT OF THE FRICTION COEFF. DECREASES WITH INCREASING HARDNESS. THE DEPENDENCE OF THE TOTAL COEFF. OF EXTERNAL FRICTION ON HARDNESS WAS STUDIED BY GLIDING OF A SPHERICAL INDENTOR ON THE POLISHED SURFACES OF PLANE CU SAMPLES. THE DEPENDENCES OF THE ADHESION AND DEFORMATION COMPONENTS OF THE FRICTION COEFF. CORRECTLY DESCRIBES THE DEPENDENCE OF THE TOTAL FRICTION COEFF. ON THE HARDNESS OF THE MATERIAL. THE FRICTION COEFF. DETD. ON A 1 BALL TANEGNITIONMETER IS THE ADHESION COMPONENT OF THE FRICTION COEFF. FACILITY: MOSK. TEKHNOLOG. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.372.825.004.14

SOKOLOV, Ye. A., BENDERSKIY, V. A., GOBEDZHITVILI, V. D., and MIKHIN, V. I.

"Use of Flat Radial Spirals in Electron Paramagnetic Resonance Technology"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 8, Aug 71, pp 1432-1436

Abstract: The authors analyze the sensitivity and bandwidth of flat arithmetical and logarithmic spirals used as pickups in electron paramagnetic resonance spectroscopy. It is shown that arithmetical spirals can be used to achieve high SHF magnetic field strength in a thin specimen (approximately 1 oersted/ $\omega^{1/2}$) and that they have a sensitivity comparable to that of a cavity resonator in a passband of 1000 MHz. It is concluded that flat spirals can be successfully used in double electron-electron resonance technology and pulse measurements of spin relaxation in the study of specimens excited by strongly absorbed radiation. The radial spirals can be used as EPR signal pickups for flat specimens with a thickness of the order of 0.1 mm and volumes of less than 8 mm³ (or 16 mm³ in the case of bilateral arrangement of the specimen). In the case of ideal matching, the sensitivity of the spiral should be 5-10 times that of a resonator. The considerable bandwidth of a radial spiral makes it useful as an EPR pickup, and the small dimensions are very convenient for measurements at very low temperatures. In conclusion, the authors thank V. P. Sazonov for discussion and constructive criticism.

1/1

1/2 010 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--IMPROVEMENT IN ROTARY FURNACES FOR ROASTING CARBONACEOUS MATERIALS
-U-
AUTHOR--(1031)-KHODUROV, E.I., MIKHLIN, A.E., EPSHTEIN, B.L.
COUNTRY OF INFO--USSR
SOURCE--TSVET. METAL. 1970, 43(2) 37-9
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--ROASTING FURNACE, COKE, ANODE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PRUXY REEL/FRAE--1989/1918 STEP NO--UR/0136/70/043/002/0037/0039
CIRC ACCESSION NO--AP0108247
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02DCT70

2/2 010

CIRC ACCESSION NO--AP0108247

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE OPERATION OF A 3-M DIAM TIMES
44-M LONG ROTARY FURNACE USED FOR PRODUCING ANODE MATERIALS WAS STUDIED,
AND MATERIAL AND HEAT BALANCES WERE MADE. THE REACTIONS ARE SHOWN WHICH
MAY BE RESPONSIBLE FOR THE LOSS OF COKE. THE EXHAUST GASES CONTAIN ONLY
A SMALL AMT. OF CO; THIS INDICATES THAT THE REACTION, C PLUS O SUB2
EQUALS CO SUB2, MAY PREDOMINATE. THE REDUCE COKE LOSSES THE C MUST BE
PREVENTED FROM INTERACTING WITH THE AIR O SUB2. INCREASING THE FUEL
RATE, LOWERING THE HEATING TEMP., AND INCREASING THE GAS TIGHTNESS OF
THE KILN DO NOT DECREASE THE COKE LOSS. IT IS RECOMMENDED THAT THE
GASES FROM THE FIRE BOX CONTAIN MOSTLY CO SUB2, H SUB2 O, AND N SUB2.

UNCLASSIFIED

USSR

MIKHLIN, E. I.

"A Powder for Airport Runways"

Moscow, Khimiya i Zhizn', No 9, Sep 70, p 9

Abstract: Several years ago Aeroflot (Main Administration of the Civil Air Fleet) asked the Institute of General and Inorganic Chemistry, Academy of Sciences USSR, to develop a chemical agent for glaze control. Such an agent -- CNU (calcium nitrate, urea) powder -- has now been created. The State Institute of the Nitrogen Industry has developed a process for its manufacture, and the Dneprodzerzhinsk Chemical Combine has a shop which fully meets the needs of Aeroflot. CNU powder is contraindicated for concrete surfaces, but is excellent for asphalt pavements, which are used at nearly half of the Soviet airports. The powder forms such low-melting mixtures with ice that the ice melts in 15-degree frost and the runways remain completely ice-free for 48 hours.

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UDC 532

USSR

GORSKIY, F. K., MIKHLIN, M. Ye.

"Change in Viscosity at the Transition Point of an Isotropic-Liquid to the Liquid-Crystal Phase"

Minsk, V sb. Kristallizatsiya i faz. prevrashcheniya (Crystallization and Phase Transformations -- collection of works) "Nauka i tekhn.," 1971, pp 5-9 (from RZh-Fizika, No 9, 1971, Abstract No 9E52)

Translation: The results are given of the measurements of the variation, with temperature, of the viscosity of cholesteryl cinamate, cholesteryl benzoate, and cholesteryl capinate. In the neighborhood of the transition, this dependence has a λ shape. The jumps in viscosity at the transition point are 67, 44, and 21% respectively. The most conclusive λ shape of the dependence (at the elucidative point) is explained by the anisotropy of the viscosity for the elongated molecules and the appearance, in the pre-crystallization period, of ordering corresponding to the liquid-crystalline state. Author's abstract.

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USSR
MATHEMATICS
Differential & Integral Equations

USSR

MIKHLIN, S. G.

"Network Approximation of Solutions of Degenerate, Univariate Second-Order
Differential Equations"

Leningrad, Vestnik Leningradskogo Universiteta: Matematika-Mekhanika-Astronomiya;
January-March, 1973; pp 52-67

ABSTRACT: The first boundary value problem for degenerate, ordinary second-order differential equations is considered; the operator A of this problem is assumed to be positively defined in the space $L_2(0, 1)$. It is proved that any system of functions which is complete in the energy metric of the non-degenerate operator $-d^2/dx^2$, $u(0) = u(1) = 0$ is also complete in the energy metric of the operator A .

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USSR

MIKHLIN, S. G., Vestnik Leningradskogo Universiteta: Matematika-Mekhanika-Astronomiya; January-March, 1973; pp 52-57

The approximation of the solutions of equations of the form $Au = f$ by polygons with the abscissas kh ($k = 0, 1, \dots, n$) of the vertices is studied. Evaluations are obtained for the index of degeneration α satisfying the inequality $0 < \alpha < 5/2$; these evaluations depend on the properties of the coefficients and the absolute term of the differential equation. For example, if $1 \leq \alpha < 2$ and $f \in L_s$, $2 \leq s \leq \infty$, then the order of approximation is

$$O\left(h^{\left(\frac{3-\alpha}{2} - \frac{1}{s}\right)}\right).$$

There are seven bibliographic references.

UDC: 539.3

USSR

MIKHLIN, S. G.

"Kosser Spectrum of Statistical Problems in Elasticity Theory and Its Applications"

V sb. Probl. mekhan. tverd. deformir. tela (Problems in the Mechanics of Solid Deformed Bodies) Leningrad, "Sudostroyeniye" (Shipbuilding) 1970, pp 265-271 (from RZh-Mekhanika, No. 8, Aug 70, Abstract No. 8V9)

Translation: This involves a spectrum of ω values for which the uniform differential equation system in the static theory of elasticity

$$\Delta \vec{u} + \omega \text{ grad div } \vec{u} = 0$$

has a nonzero solution satisfied by uniform boundary conditions at the limit of the elastic medium. The number ω is known as the Kosser /transliteration uncertain/ and the totality of such numbers is a Kosser spectrum, while the corresponding nonzero solutions for $\vec{u}$ are the Kosser eigenvectors. The paper contains a short review

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USSR

MIKHILIN, S. G., V sb. Probl. mekhan. tverd. deformir. tela, 1970,
pp 265-271

of the work of Kossier, the author, and several other investigators. It is shown that for the first boundary value problem, the Kossier numbers are real and are spread over the ray $\omega < -1$. For the second boundary value problem they are also real and are on the ray $\omega \leq 1/3$. Explicit expressions are given for the Kossier spectrum of a sphere and its first boundary value problem solution. The results of the analysis of the Kossier spectrum are given for the case of a smooth boundary and in the case of the plane problem. Solutions for the first and second boundary value problems in the theory of elasticity are given through the Kossier eigenvectors. Finally, the effect of the Poisson coefficient on the solution of these general problems in the theory of elasticity is analyzed. V. A. Pal'mov

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- 111 -

1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SOME PROPERTIES OF THE COSSERAT SPECTRUM OF THE SPATIAL AND PLANE
PROBLEMS OF ELASTICITY -U-
AUTHOR--MIKHILIN, S.G.
COUNTRY OF INFO--USSR
SOURCE--VESTNIK LENINGRADSKOGO UNIVERSITETA, NO 7, MATEMATIKA, MEKHANIKA,
ASTRONOMIYA, 1970, NR 2, PP 31-45
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELASTICITY THEORY, BOUNDARY VALUE PROBLEM, EIGVALUE, INTEGRAL
EQUATION, INTERACTION, PHOTOELASTICITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/1602

STEP NO--UR/C043/70/0000/002/0031/0045

CIRC ACCESSION NO--AP0133511

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 022

CIRC ACCESSION NO--AP0133511

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE MAIN RESULTS OF THIS ARTICLE ARE: THE REPRESENTATION OF THE SOLUTIONS OF THE FUNDAMENTAL ELASTICITY PROBLEMS BY WAY OF THE COSSERAT SPECTRUM IS GIVEN. THE AUTHOR GIVES A NEW PROOF, MORE ELEMENTARY AS IN (3), FOR THE FOLLOWING THEOREM: THE EIGENVALUES OF INFINITE RANK OF THE FIRST BOUNDARY VALUE PROBLEM (OMEGA EQUALS MINUS 1 AND OMEGA EQUALS INFINITY (OMEGA IS THE SPECTRAL PARAMETER)), ARE ISOLATED. AN ANALOGOUS THEOREM FOR THE SECOND BOUNDARY VALUE PROBLEM IS PROVED. IT IS SHOWN THAT THE CLASSICAL INTEGRAL EQUATION OF LICHENSTEIN CAN BE SOLVED BY MEANS OF THE ITERATION PROCEDURE. THE BEHAVIOUR OF THE SOLUTIONS OF THE FUNDAMENTAL ELASTICITY PROBLEMS IS INVESTIGATED IN THE CASE WHEN POISSON'S RATIO IS CLOSE TO ONE HALF; SUCH AN INVESTIGATION IS SIGNIFICANT FOR THE PHOTOELASTICITY METHOD. THE ANALYTICAL CHARACTER OF THE DEPENDENCE OF THE SOLUTION UPON POISSON'S RATIO IS ALSO INVESTIGATED. THE AUTHOR SHOWS THAT THE COSSERAT SPECTRUM OF THE SECOND PLANE ELASTICITY PROBLEM CONSISTS OF THREE EIGENVALUES OMEGA EQUALS MINUS 1, 0, INFINITY OF INFINITE RANK. IT GAVE THE POSSIBILITY TO STATE A NEW VARIATIONAL PRINCIPLE FOR THE GIVEN PROBLEM. IT IS PROVED THAT COSSERAT EIGENVALUES OF FINITE RANK OF THE FIRST PLANE PROBLEM IS SITUATED TO THE LEFT OF THE POINT OMEGA EQUAL MINUS 2. THE MOST PART OF THE MENTIONED RESULTS IS OBTAINED IN THE CASE OF A FINITE DOMAIN WHICH BOUNDARY IS SMOOTH ENOUGH. SOME OF THESE RESULTS IN PARTICULAR THOSE WHICH REFER TO THE SECOND PLANE PROBLEM ARE TRUE AS WELL AS IN THE CASE OF A PIECEWISE SMOOTH BOUNDARY.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--3000170
TITLE--VULCANIZATION OF RUBBERS WITH SORBIC ACID SALTS --U--
AUTHOR--(05)--ZAKHAROVA, YE.S., MIKHLIN, V.E., DONTSOV, A.A., MARKOV, V.V.,
DUGADKIN, B.A.
COUNTRY OF INFO--USSR
SOURCE--KAUCH. REZINA, 1970, 29(3), 46
DATE PUBLISHED--70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--VULCANIZATION, PEROXIDE, ORGANOCALCIUM COMPOUND, ORGANONICKEL
COMPOUND, STYRENE, SYNTHETIC RUBBER, VULCANIZATE/101SKS/DARK STYRENE
RUBBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0833

STEP NO--UR/0138/70/029/003/0046/0046

CIRC ACCESSION NO--AP0124500

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 017

CIRC ACCESSION NO--AP0124500

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SKS 30 ARK RUBBER WAS VULCANIZED
IN THE PRESENCE OF 10 PARTS (MECH:CHCH:CHCO SUB2) SUB2 CA OR
(MECH:CHCH:CHCO SUB2) SUB2 NI AND VARIOUS PEROXIDES. THE VULCANIZATES
WITH SUPERIOR PHYSIOMECH. PROPERTIES WERE OBTAINED. FACILITY:
MOSK. INST. TONKOI KHIM. TEKHNOL. IN. LOMONOSOVA, MOSCON, USSR.

UNCLASSIFIED

USSR

UDC: 621.396.69:621.319.4

MIKHILIN, V. S.

"Improving the Reliability of Paper Capacitors for Radio Work"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiotekhnika (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 2 (19), pp 39-50 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V289)

Translation: A procedure is described for finding low-reliability paper capacitors by applying high DC voltage. The method is based on accelerated polarization of the dielectric and statistical comparison of the number of rejected capacitors with the number of operational failures in the initial period of use. Experimental results indicate that failures are possible from break-in operation. Specific conditions are given for finding low-reliability KBG and OKBG capacitors. Author's abstract.

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1/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--EFFECT OF HEAT TREATMENT ON THE STRUCTURE OF HIGHLY ORIENTED KAPRON
SPUN THREADS -U-
AUTHOR--(05)-NOSOV, M.P., MIKHLINA, V.V., PAKHOMOVA, L.N., OLEYNIK, V.G.,
BYCHKOVSKIY, N.I.
COUNTRY OF INFO--USSR

SOURCE--KHIM. VOLOKNA 1970, (1), 18-21

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CAPRONE, IR SPECTRUM, MOLECULAR STRUCTURE, THERMAL EFFECT,
MACROMOLECULE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1984/1820

STEP NO--UR/0183/70/000/001/0018/0021

CIRC ACCESSION NO--AP0100324

UNCLASSIFIED

2/2 025
CIRC ACCESSION NO--AP0100394

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF HEAT TREATED
HIGHLY ORIENTED KAPRON (I) YARN (93.4

USSR

UDC 615.22:547.834.4

MIKHILINA, YE. YE., ZAYTSEVA, K. A., VOROB'YEVA, V. YA., MASHKOVSKIY, M. D., and YAKHONTOV, L. N., All Union Scientific Chemical-Pharmaceutical Research Institute Imeni S. Ordzhonikidze, Moscow

"Synthesis and Pharmacological Study of the Derivatives of 3-Hydroxy- and 3-Aminoquinuclidines"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 7, No 8, Aug 73, pp 20-24

Abstract: A series of substituted quinuclidines was synthesized. To obtain 3-(2'-hydroxybenzoyloxy)quinuclidine and related others, the 3-hydroxyquinuclidine was reacted with benzoic acid chlorides in pyridine at 20° or 100°. 3-Acylaminoquinuclidines were synthesized by reacting 3-aminoquinuclidine with respective acid chlorides. Two methods were used to prepare 3-alkyl- and 3-aryl-aminoquinuclidines: reduction of the 3-acylaminoquinuclidine with LiAlH_4 , and reductive alkylation of 3-aminoquinuclidines with various carbonyl compounds, or of the respective amines with 3-ketoquinuclidine. The pharmacological studies were carried out using 3-benzoyloxyquinuclidine hydrochloride as the standard.

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USSR

MIKHLINA, YE. YE., et al., Khimiko-Farmatsevticheskiy Zhurnal,
Vol 7, No 8, Aug 73, pp 20-24

Only the ethers containing OH, CH₃ or Cl in the phenyl ring
approached the activity of the standard compound. The rest of
the derivatives had a diminished pharmacological effect or lacked
it altogether.

2/2

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USSR

UDC 547.834.44541.634

MIKHILINA, YE. YE., YANINA, A. D., ALEKSEYEVA, L. M., TURCHIN, K. F., SHEYNER, YU. N., YAKHONTOV, L. N., DYUK, R. F., RICHARD, A. YA., and KATRITSKIY, A. R.,
All-Union Scientific Research Pharmaceutical Chemical Institute Imeni S. Ordzhonikidze, Moscow and Chemistry Department, University of East Anglia at Norwich, Great Britain

"Reaction of Benzo [b]quinoxaline with Electrophilic Reagents"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, Academy of Sciences Latvian SSR, No 3, 1971, pp 385-388

Abstract: Electrophilic substitution of benzo [b] quinoxaline (I) was studied: bromination, nitration, and sulfochlorination. These results are closely related to the absence of p- π electron interaction in I. When I is brominated in several different solvents (acetic acid, chloroform) at 0, 20, and 60° (with or without catalysts), only the perbromide of I and a molecular complex of I with bromine were obtained. The absence of the p- π mesomeric effect in I is shown by its pK. In contrast to bromination, nitration and sulfochlorination of I form products of electrophilic substitution. When I is treated with a nitrating mixture at temperatures from -4 to -7°, mononitrobenzo [b] quinoxaline is formed. When I is treated with chlorosulfonic acid, first at 0° and then at 50°, benzo [b]quinoxaline-sulfonyl chloride is formed.

1/1

1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--REDUCTION OF 1,7-DIAZABICYCLO[4.3.0], NON-SIGMA-ENE AND
2,3-DIHYDROIMIDAZO[1,2-a]PYRIDINE AS AZACYCLIC COMPOUNDS WITH AMIDINE
AUTHOR--(03)-YAKHONTOV, L.N., VORDLYEVA, V.YA., MIKHLINA, E.E.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (4), 495-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CHEMICAL REDUCTION, MOLECULAR STRUCTURE, AROMATIC AMINE,
SECONDARY AMINE, PRIMARY AMINE, ORGANIC AZO COMPOUND, PYRIDINE, AROMATIC
KETONE, HYDROGENATION, HETEROCYCLIC NITROGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY PEEL/FRAHE--3005/1349

STEP NO--0370409/70/0007004/0425/0497

CIRC ACCESSION NO--AP013303

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 012

CIRC ACCESSION NO--AP0133403

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REDUCTION OF 1,7-DIAZABICYCLO,

4.3.0, NON, OMEGA, ENO AND 2,3-DIHYDROIMIDAZO, 1,2-A, PYRIDINE AS

AZACYCLIC COMPOUNDS WITH AMIDINE STRUCTURE. (SHOWN ON MICROFICHE).

FACILITY: VSES. NAUCH.-ISSLED. KHIM.-FARM. INST. IN. ORDZHONIKIDZE,
MOSCOW, USSR.

1/2 008 UNCLASSIFIED PROCESSING DATE--160CY70
TITLE--HETEROCYCLIC ALPHA AMINO NITRILES AND THEIR PROPERTIES. SYNTHESIS.
AND REACTIONS OF 3-CYANO, E, TERT, AMINOQUINUCLIDINES -U-
AUTHOR-(03)-MIKHLINA, YE.YE., VOROBEEVA, V.YA., RUBTSOV, M.V.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (1), 74-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CHEMICAL SYNTHESIS, HETEROCYCLIC NITROGEN COMPOUND, NITRILE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/1365

STEP NO--UR/0409/70/000/001/0074/0071

CIRC ACCESSION NO--AP0054239

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0054239
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MIXT OF 30 G 3,QUINDELIDONE
CYANOHYDRIN (I), 40 ML PIPERIDINE AND 300 ML C SUB6 H SUB6 WAS HEATED IN
A DEAN STARK APP. TO GIVE 28.3 G II (IR PRIME1 & PRIME2 EQUALS) (CH
SUB2)SUB5) (IIA), B SUB1 140-20DEGREES, ALSO OBTAINED IN 93.3PERCENT
YIELD WHEN 3 G I WAS KEPT 15 DAYS AT 20DEGREES WITH 20 ML PIPERIDINE AND
45 ML MEQH. FORMULA SHOWN ON MICROFICH. FACILITY: VSES.,
NAUCH.-ISSLED. KHIM.-FARM. INST. IM. ORDZHONIKIDZE, MOSCOW, USSR.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EXPERIENCE WITH CLINICAL USE OF VIBRAMYCIN -U-

AUTHOR--(05)--MIKHNEV, A.L., PTUKHA, R.M., TYDELSKAYA, I.L., KRYLOVA, N.M.,
YAKOVENKO, S.N.
CCOUNTRY OF INFO--USSR

SOURCE--VRACHEBNYE DELA, 1970, NR 2, PP 12-16

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD SERUM, PROTEIN, TETRACYCLINE, INFECTIOUS DISEASE,
SELECTIVE DRUG EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/0454

STEP NO--UR/0475/70/000/002/0012/0016

CIRC ACCESSION NO--AP0100932

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT7C

CIRC ACCESSION NO--AP0100932

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. VIBRAMYCIN (DOXYCYCLIN) EXERTS A CHARACTERISTIC OF TETRACYCLINS ACTION SPECTRUM BUT IT PROVED MORE EFFICIENT THAN ITS STRUCTURAL HOMOLOGUES. TOLERANCE OF THE DRUG WAS GOOD AND ONLY TWO PATIENTS DEVELOPED VOMITING. VIBRAMYCIN PROVED HIGHLY EFFICIENT IN THE TREATMENT OF ACUTE INFECTIOUS DISEASES. THE CONCENTRATION OF DOXYCYCLIN REACHES 2.55-1.72 GAMMA-ML OF BLOOD SERUM FOLLOWING INTAKE OF 200 MG. WHICH IS SIGNIFICANTLY HIGHER THAN WITH OTHER TETRACYCLINS. FURTHER INTAKE PER 100 MG KEEPS ANTIBACTERIAL CONCENTRATION ON A HIGH LEVEL. DATA ON THE BINDING OF DOXYCYCLINE BY BLOOD SERUM PROTEINS ARE ONLY PRELIMINARY AND CONTROVERSIAL AND NEED FURTHER STUDY.

UNCLASSIFIED

USSR

UDC 621.822.5

BELYY, V. A., KUPCHINOV, B. I., MIKHNEVICH, A. S., ASTASHIN, V. Ya., and
YEGORENKOV, N. I.

"Bearings with Metal-Polymeric Plating"

Moscow, Mashinostroitel', No 5, May 71, p 24

Abstract: A method of producing strip materials with antifriction metal-polymeric plating has been developed at the Institute of Mechanics of Metal-Polymeric Systems of the Belorussian SSR. The method is described, properties of the new material are discussed, and its high antifriction quality is demonstrated in comparison with the strip material tembac. Preliminary results of field tests proved the high efficiency of the new material. Its use for bearing bushings for starters of automotive engines is now being investigated. Three figures.

1/1

USSR

UDC: [621.315.21:537.312.62]:001.4

MIKHNEVICH, G. V., deceased, BLINKOV, Ye. L., GOL'DENBERG, Ye. S., Moscow

"Using the Effect of Superconductivity to Improve Electric Power Transmitting Technology"

Moscow, Izv. AN SSSR: Energetika i Transport, No 4, Jul/Aug 72, pp 6-13

Abstract: The principal characteristics and design peculiarities of superconducting electric power transmission lines are discussed. The paper gives the results of experimental research conducted on a laboratory model of a superconducting line, as well as the results of a technical and economic comparison between lines of this type and a conventional high-voltage cable. The experimental results show the technical feasibility of a superconducting cable with total heat influx and heat release in a current-conducting system of no more than 0.1 W/m. A technical and economic analysis based on a detailed calculation of the electromagnetic, hydrodynamic and heat processes in an AC superconducting cable show that with the transmission of high powers it would be possible to reduce the cost of the cable by 2-3 times as compared with a conventional high-voltage cable while simultaneously reducing energy transport losses by a factor of approximately 25 times.

1/1

USSR

UDC 621.313.322:621.316.719.2(088.8)

LIBKIND, M. S., MIKHNEVICH, G. V.

"Device for Electric Braking of the Synchronous Generator"

USSR Author's Certificate No 266035, filed 26 Feb 68, published 10 Aug 70,
(from RZh-Elektrotehnika i Energetika, No 2, Feb 71, Abstract No 2 Yell7 P)

Translation: A patent is described for a device to increase the stability of parallel operation of synchronous generators in the presence of a short circuit in the network, current limiting, and short circuiting of the synchronous generators. The proposed device is distinguished by the fact that a second winding inductively connected to the first winding is installed in the reactor, and a resistance is connected to its leads. This execution provides for electric braking of the synchronous generator immediately after occurrence of short circuit currents. The braking time is several microseconds. Therefore, the power and overall dimensions of the reactor are determined not by the thermal mode but by the necessity of obtaining corresponding electromagnetic characteristics for the rated mode of operation and short circuit mode. There is 1 illustration.

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" 97 "

USSR

UDC 621.315.592

SIROTA, N. N., Academician of the Academy of Sciences Belorussian SSR, and
MIKHNEVICH, V. V., Institute of Solid-State and Semiconductor Physics, Academy of Sciences Belorussian SSR

"Magnetic Field Effect on Radiation of Indium Phosphide p-n Junctions"

Minsk, Doklady Akademii Nauk BSSR, Vol 16, No 3, Mar 72, pp 205-207

Abstract: The article describes results of a study of the effect of a longitudinal magnetic field on the spectral radiation distribution of InP diodes obtained by diffusion of zinc into an n-type material. The diodes were fabricated by the authors, who used indium phosphide with impurity concentrations of $n = 3 \cdot 10^{15}$, $6.7 \cdot 10^{17}$, and $3 \cdot 10^{18} \text{ cm}^{-3}$ as the initial material. Radiation emerging in the p-n junction plane was studied on an IKM-1 monochromator with a glass prism. Two types of radiation ($h\nu_1$, $h\nu_2$) of varying intensity were observed, readily distinguishable for diodes with a low impurity concentration. The low-energy band $h\nu_2$ is a phonon repetition of the main band $h\nu_1$. The maximum of the band with energies $h\nu_1$ and $h\nu_2$ shifts towards

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USSR

SIROTA, N. N., and MIKHNEVICH, V. V., Doklady Akademii Nauk BSSR, Vol 16, No 3, Mar 72, pp 205-207

short wavelengths with an increase in magnetic field strength. The principal maximum is characterized by narrowing of the emission band with field growth, which apparently is due to a change in the density of states in the magnetic field. The dependence of the radiation energy shift on the magnetic field is quadratic and described by the expression

$$\Delta E = k \cdot H^2 \cdot 10^{-4},$$

where ΔE is in Mev, H is in kOe, k is a dimensionless coefficient. The dependence of the radiation energy shift of phonon repetition on the magnetic field for diodes with $n = 8 \cdot 10^{15} \text{ cm}^{-3}$ is plotted. There is a decline in the slope of $k = \Delta E / H^2$ with an increase in impurity concentration, which is explained by an increase of the effective carrier masses. The observed quadratic dependence of the shift in the indium phosphide emission line on the magnetic field suggests that the upper levels are donor, since the resultant shift is characteristic of impurity states.

2/2

1/2 006 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PHOSPHORYLATION OF TRISUBSTITUTED OLEFINS BY PHOSPHORUS
PENTACHLORIDE -U-
AUTHOR-(03)-ROZINOV, V.G., MIKHNEVICH, V.V., GRECHKIN, YE.F.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBHCH. KHIM. 1970, 40(4), 935
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHOSPHORUS CHLORIDE, ALKENE, CHEMICAL SUBSTITUENT, METHYLENE,
BENZENE DERIVATIVE, CHLORINE, COMPLEX COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/1516 STEP NO--0079/70/040/004/0935/0235
CIRC ACCESSION NO--AP0135177

UNCLASSIFIED

2/2 006 UNCLASSIFIED PROCESSING DATE--04DEC70
 CIRC ACCESSION NO--AP0135177
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PCL SUB5 REACTS WITH DISUBSTITUTED
 UNSATD. COMPOS. PROVIDED THAT THERE IS A NUCLEOPHILIC SUBSTITUENT
 ADJACENT TO THE DOUBLE BOND, AND DOES NOT REACT IF THE SUBSTITUENT IS AN
 ELECTROPHILIC ONE. IN THE CASE OF TRISUBSTITUTED OLEFINS A SIMILAR
 ACTIVATION BY NUCLEOPHILIC GROUPS WAS NOTED AND SUCH WEAK GROUPS AS ME
 WERE EFFECTIVE. THUS WERE ISOLATED SUCH ADDUCTS AS MECH:CYPCL SUB3
 PRIME POSITIVE NEGATIVE PCL SUB6 PRIME NEGATIVE WHERE X EQUALS EM, PH, P
 MEOC SUB6 H SUB4, WHILE Y EQUALS ME OR X EQUALS ME AND Y EQUALS PH. ALL
 WERE COLORLESS SOLIDS WHICH HYDROLYZE WITH EASE. SINCE THE COMPLEXES
 TENDED TO DECOMP. IN THE REACTION MIXT., THEIR YIELDS WERE NOT HIGH.
 REPLACING ONE OF THE ME GROUPS BY PH OR BY MEOC SUB6 H SUB4 RESULTED IN
 FAILURE OF THE REACTION AND IT WAS IMPOSSIBLE TO ADD PCL SUB5 TO
 MECPH:CHPH, PH SUB2 C: CHME, OR P MEOC SUB6 H SUB4 CPH:CHME. EVIDENTLY
 THE STERIC AND ELECTRON ACCEPTOR PROPERTIES COMBINED TO INHIBIT THE
 REACTION FOR COMPOS. WITH MORE THAN 1 AROMATIC RING. CHLORINATED
 TRISUBSTITUTED OLEFINS DID NOT ADD PCL SUB5, AND EVEN PHO GROUP FAILED
 TO CANCEL THE EFFECT OF THE CL ATOMS. THE ABOVE COMPLEXES WERE
 CONVERTED CONVENTIONALLY INTO CHLORIDES MECH:CYPCL SUB2 IX EQUALS ME, Y
 EQUALS PH, B SUB2 130DEGREES, N PRIME20 SUBD 1.5604. FACILITY:
 IRKUTSK. GOS. UNIV. IM. ZHDANOVA, IRKUTSK, USSR.

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TITLE--DETERMINING ATMOSPHERIC PARAMETERS IN THE TRANSITION REGION AT
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AUTHOR-(03)-TRISHINA, YU.M., GOLUBEV, YE.N., MIKHNEVICH, V.V.
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ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THIS PAPER DESCRIBES A METHOD FOR

COMPUTING THE PARAMETERS OF THE UNDISTURBED ATMOSPHERE USED IN

MEASUREMENTS MADE AT THE SURFACE OF A BLUNTED BODY MOVING WITH

HYPERSONIC VELOCITIES IN DIFFERENT AERODYNAMIC REGIMES FROM FREE

MOLECULAR THROUGH TRANSIENT TO CONTINUOUS. THE DATA USED WERE OBTAINED

USING THE HIGH ALTITUDE GEOPHYSICAL STATION, ALREADY WELL DESCRIBED IN

THE LITERATURE. THE PROBLEM INVOLVED EVALUATING ALL THE FACTORS

AFFECTING THE NATURE OF FLOW AROUND THE OBJECT DURING ITS MOTION IN THE

TRANSITION REGION AND MAKING COMPUTATIONS ON THE BASIS OF THESE

ESTIMATES. THE RESULTS OF THE COMPUTATIONS OBTAINED USING DIFFERENT

METHODS WERE COMPARED. FLIGHT OF THE STATION OCCURRED IN ALL

AERODYNAMIC REGIMES. MEASUREMENTS WERE MADE USING TWO MAGNETIC GAS

DISCHARGE MANOMETERS MOUNTED ON THE EQUATOR OF THE SPHERICAL CAPSULE.

THE VELOCITY OF CAPSULE MOTION IN THE SECTOR 140-80 KM OF THE DESCENDING

BRANCH OF THE TRAJECTORY VARIED IN THE RANGE 2,600 TO 2,800 M-SEC.

MOTION OF THE BODY WAS ACCOMPANIED BY THE APPEARANCE OF HIGH (ABOUT

3000DEGREESK) DECELERATION TEMPERATURES, LEADING TO DISSOCIATION OF

MOLECULAR OXYGEN HAVING A LOW ENERGY OF DISSOCIATION WHICH ALREADY

BEGINS AT A TEMPERATURE OF 2000DEGREESK. EXPERIMENTS IN WIND TUNNELS

AND THEORETICAL COMPUTATIONS MADE IT POSSIBLE TO PROCESS THE MEASUREMENT

DATA OBTAINED IN THE TRANSITION REGION 80-120 KM. IT IS SHOWN THAT THE

RESULTS OBTAINED BY COMPUTATIONS WITH USE OF THE METHOD EMPLOYED FOR A

FREE MOLECULAR FLOW DIFFER FROM THE RESULTS OBTAINED FOR A CONTINUAL

FLOW; THE DIFFERENCE INCREASES WITH A DECREASE IN ALTITUDE.

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ABSTRACT/EXTRACT--THE VALUES OBTAINED USING THE MODIFIED RAYLEIGH FORMULA AGREE BETTER WITH DATA COMPUTED FOR FREE MOLECULAR FLOW IN THE REGION OF ALTITUDES 140-150 KM FOR THE MAGNETIC MANOMETER AND INDEPENDENT MEASUREMENTS WITH AN IONIZATION MANOMETER THAN WHEN USING THE RAYLEIGH FORMULA WITHOUT CORRECTION FACTORS. VERTICAL PRESSURE DISTRIBUTION WAS DETERMINED FROM THE ANALYZED DATA; DENSITY DISTRIBUTION WAS FOUND AND COMPARED WITH A DETERMINATION MADE BY THE FALLING SPHERES METHOD.

USSR

UDC: 547.341

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"Phosphorylation of Trisubstituted Olefins With Phosphorus Pentachlo-
ride"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, p 935

Abstract: In a previous article the authors reported that β -disubstituted unsaturated compounds which are considered unphosphorylatable are phosphorylated with phosphorus pentachloride if there are nucleophilic substituents along with the multiple bond and are not phosphorylated if the substituents are electrophilic. In the present article the ideas about activation with nucleophilic substituents in the phosphorylation reaction are extended to trisubstituted olefins. Even such weak electron-donor substituents as the methyl group promote phosphorylation. Previously unknown complex compounds of the type $\text{MeC(X)=C(Y)PCl}_3^+ \cdot \text{PCl}_6^-$, where $\text{X}=\text{Me, Ph, p-MeOC}_6\text{H}_4$, given $\text{Y}=\text{Me}$ and

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ROZINOV, V. G., et al., Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, p 935

X=Me given Y=Ph, were isolated. When one of the methyl groups is replaced by phenyl or even a more nucleophilic anisyl group the olefin is not phosphorylated. Chlorine-containing trisubstituted olefins are not phosphorylated by phosphorus pentachloride. Acid chlorides of tetrasubstituted vinylphosphonic acids $\text{MeO(X) = C(Y)POCl}_2$ were obtained from the complex compounds.

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A70-24310 # Variations of atmospheric parameters during magnetic storms (Variatsii parametrov atmosfery v period magnitnykh bur'). V. V. Mikhnevich and T. A. Solov'enko. *Kosmicheskie Issledovaniia*, vol. 6, Jan.-Feb. 1970, p. 85-97. 30 refs. In Russian.

Analysis and comparison of the basic patterns of variations of the parameters of a neutral and an ionized atmosphere at various heights. The findings obtained are used to interpret the behavior of the atmospheric circulation during magnetic storms. Certain theories explaining the effects observed are considered.

A.B.K.

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YEVTUSHENKO, V. E., ~~MIKHNEVICH~~, YU. P., KULIKOV, V. O., GIZATULIN, G. Z.

"Technological Process for Making, Killing, and Pouring O8Yu Nonaging Bessemer Steel"

Dnepropetrovsk, Metallurgicheskaya i gornorudnaya promyshlennost', No 2 (74), 1972, pp 16-17

Abstract: The technological processes for making, killing, and pouring O8Yu nonaging Bessemer steel are discussed. In 1966-1969, the Donetsk Scientific Research Institute of Ferrous Metallurgy and the Zhdanov Metallurgical Plant imeni Il'ich performed research to develop these processes for cold-rolled sheet O8Yu Bessemer steel for complex and supercomplex drawing. The results of these studies are discussed. The state of oxidation of the metal is affected by the intensity of blowing and ore additions for temperature correction at the end of blowing. The application of solid cast iron in the amount of 600-700 kg per melt was most effective in lowering the oxidation state of the metal in the Bessemer converter. Scavenging was carried to a carbon content of 0.06% and lower, but the scavenging intensity rarely exceeded 1.9 m³/min·ton of steel. Fifteen versions of introducing aluminum into the metal were investigated. The most optimal version was introduction of the primary aluminum as a monolith in a meltable packaging placed in the ladle on a false stopper

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YEVTUSHENKO, V. B., et al., Metallurgicheskaya i gornorudnaya promyshlennost', No 2 (74), 1972, pp 16-17

before tapping. With the optimal version of alloying the primary large surface defect of the O8Yu steel slabs was bottom splash. This defect was best controlled by improving the organization of the metal stream.

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MIKHNO, A. N., MUSIYAKA, V. K., and KALININ, F. L., Institute of Plant Physiology, Academy of Sciences Ukrainian SSR

"The Character of Histological Disturbances Caused by the Herbicide Tordon 22K in Active Growth Zones of Peas"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 6, 1972, pp 50-53

Abstract: To determine the exact effects of the herbicide, seeds of the pea Ramonskiy 77 were sprouted on filter paper, then planted in Petri dishes when root length reached 2 cm, in a solution of tordon. Concentrations were .000006, .000008 and .0001%, which correspond to the amounts required to suppress root length growth by 25, 50, and 100%. Specimens were secured after 6, 12, and 24 hours, preserved in paraffin and dissected to a thickness of 10 microns, then dyed first with hematoxylin, then with 1% eosin. It was determined that the herbicide had a different effect on various longitudinal cells of root tissues: cells of the skin and the xylem increased in size, while those of the phloem decreased. After herbicide treatment a significant isodiametric stretching was observed in the elongation zone cells. During sharp suppression of root growth this could lead to rupture of the cell wall. The herbicide activated cell division primarily in the tangential and

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MIKHNO, A. N., et al., Khimiya v Sel'skom Khozyaystve, Vol 10, No 6, 1972,
pp 50-53

radial planes, which caused an anomalous expansion of the root in width and
lessened its growth in length.

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MIRHO, L. N.

OF THE EFFECT OF ENERGY DISSIPATION ON THE DRIFT OF A HORIZONTAL PENDULUM
[Article by L. N. Mirho and B. I. Kuznetsov, Leningrad, Izvestiya VUZ, Prirodnye nauki, No. 8, 1972, pp. 82-84.]

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The differential equation of motion of a horizontal pendulum on a vibrating base is refined in this article and a formula is derived for calculating the angular drift velocity.

Vibrations of a horizontal pendulum suspension point lead to a systematic pendulum rotation. Similar phenomena in gyroscopic systems are customarily termed null drift. Studies [1, 2, 3], and others dealing with this problem consider only the resistance force due to the relative translational velocity, while the resistance force due to the drift speed is usually ignored. The medium is assumed to be stationary. Meanwhile, this component of the resistance force can prove to be appreciable.

In deriving the differential equations of motion for a pendulum while allowing for resistance forces, we will employ the second order Lagrange equations

$$\frac{d}{dt} \left(\frac{\partial L}{\partial \dot{q}_i} \right) - \frac{\partial L}{\partial q_i} = Q_i, \quad i = 1, 2, \dots, n \quad (1)$$

Here, the kinetic energy of the system

$$T = \frac{1}{2} \sum_{i=1}^n m_i \dot{q}_i^2 + \sum_{i=1}^n m_i \dot{q}_i \dot{q}_0 + \frac{1}{2} m_0 \dot{q}_0^2 \quad (2)$$

Q_i is the force related to a generalized coordinate q_i . According to [4], the energy dissipation is characterized by the function

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Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-76

240323 SAMPLER for easily fusible metals is a vacuum hood with a tube on top containing a capillary and an external heating element. A drop of liquid metal can be pressed through the capillary by raising the armature of a solenoid and letting it drop. A drop of metal falls on a mirror plate which is separated by a partition from another heating element. To obtain another sample the hood can be turned relative to the mirror plate.

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